TANGIBLE RESULT #4

Deliver Transportation Solutions and Services of Great Value

MDOT will deliver transportation solutions on time and within budget. The Department will use strategies to ensure that the transportation solution meets the needs of customers and eliminates unnecessary costs.

RESULT DRIVER:
Jason Ridgway
State Highway Administration (SHA)

TANGIBLE RESULT DRIVER:
Jason Ridgway
State Highway Administration (SHA)

PERFORMANCE MEASURE DRIVER:
Aviva Brown
Motor Vehicle Administration (MVA)

PURPOSE OF MEASURE:
To gauge the accuracy of capital project estimates to manage the department's capital program more efficiently.

FREQUENCY:
Annually (In October)

DATA COLLECTION METHODOLOGY:
Through the Capital Program Management System (CPMS); the CTP; TSO & TBU's procurement offices.

NATIONAL BENCHMARK:
+/- 5%. This mirrors the benchmark as reported by Nebraska's Dept. of Roads, Fiscal Responsibility for the Accuracy of Project Estimates. While MDOT has not specified a benchmark per se, they use Nebraska's 5% as the bench for the best.

Note: This benchmark applies to capital construction projects. So far and with extensive research, we have been unable to find a benchmark for IT projects.

PERFORMANCE MEASURE 4.1

Percent of Estimated Project Budget as Compared to Final Project Award

This performance measure fosters more accuracy and better budget management of the State's limited transportation funding. Accurate estimating enables MDOT to provide better services to its customers, whether it is infrastructure improvements to State roadways and bridges; increasing and retaining the commerce going in and out of the Port of Baltimore; attracting and retaining airlines and travelers at BWI Marshall; providing more alternative service options to Maryland citizens to conduct their MVA transactions remotely; or improving transit services throughout the State.

Given the diverse differences between construction and IT projects, we have separated into two categories with specific budget parameters:

- $1M+ construction type projects: SHA, MDTA, MPA, MAA and MTA
- $400K+ IT projects: TSO and MVA

For FY's 2015, 2016, and 2017, the range in percent change between the estimated project budgets and the final project awards was from 1.46 percent to 7.23 percent. While the range is within the +/- 5 percent, the goal is to continue working on strategies to obtain the +/- 5 percent consistently.

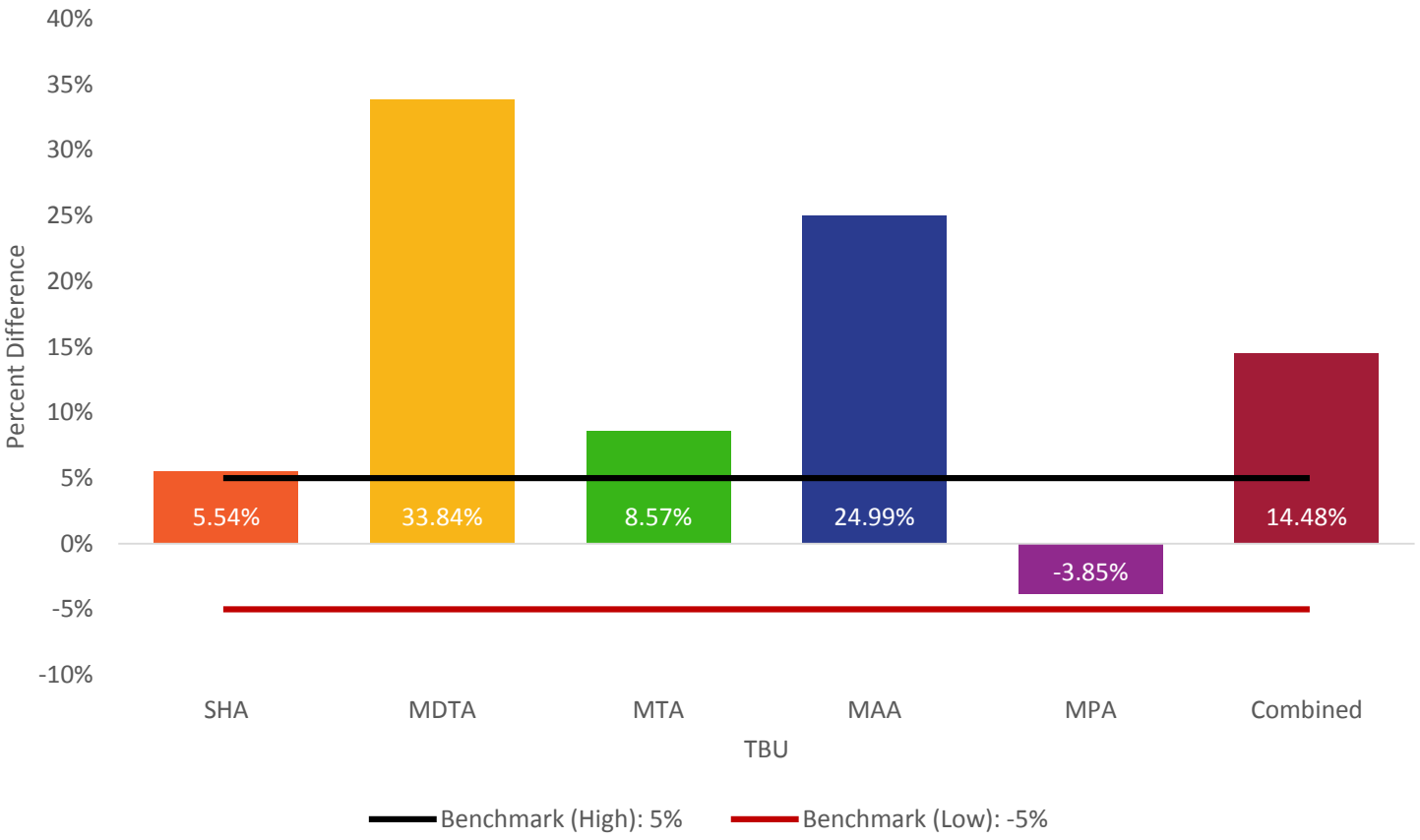
To improve the outcomes of this measure, MDOT is engaged in the following activities:

- Team expansion with subject matter experts (SME's) from each TBU;
- Use of estimating tool;
- Creation of excel spreadsheet to ensure consistency in gathering data for PM 4.1 – PM 4.3; and
- Modified dataset for construction contracts to $1M (MAA, SHA, MDTA, MPA and MTA).

PERFORMANCE MEASURE 4.1

Percent of Estimated Project Budget as Compared to Final Project Award

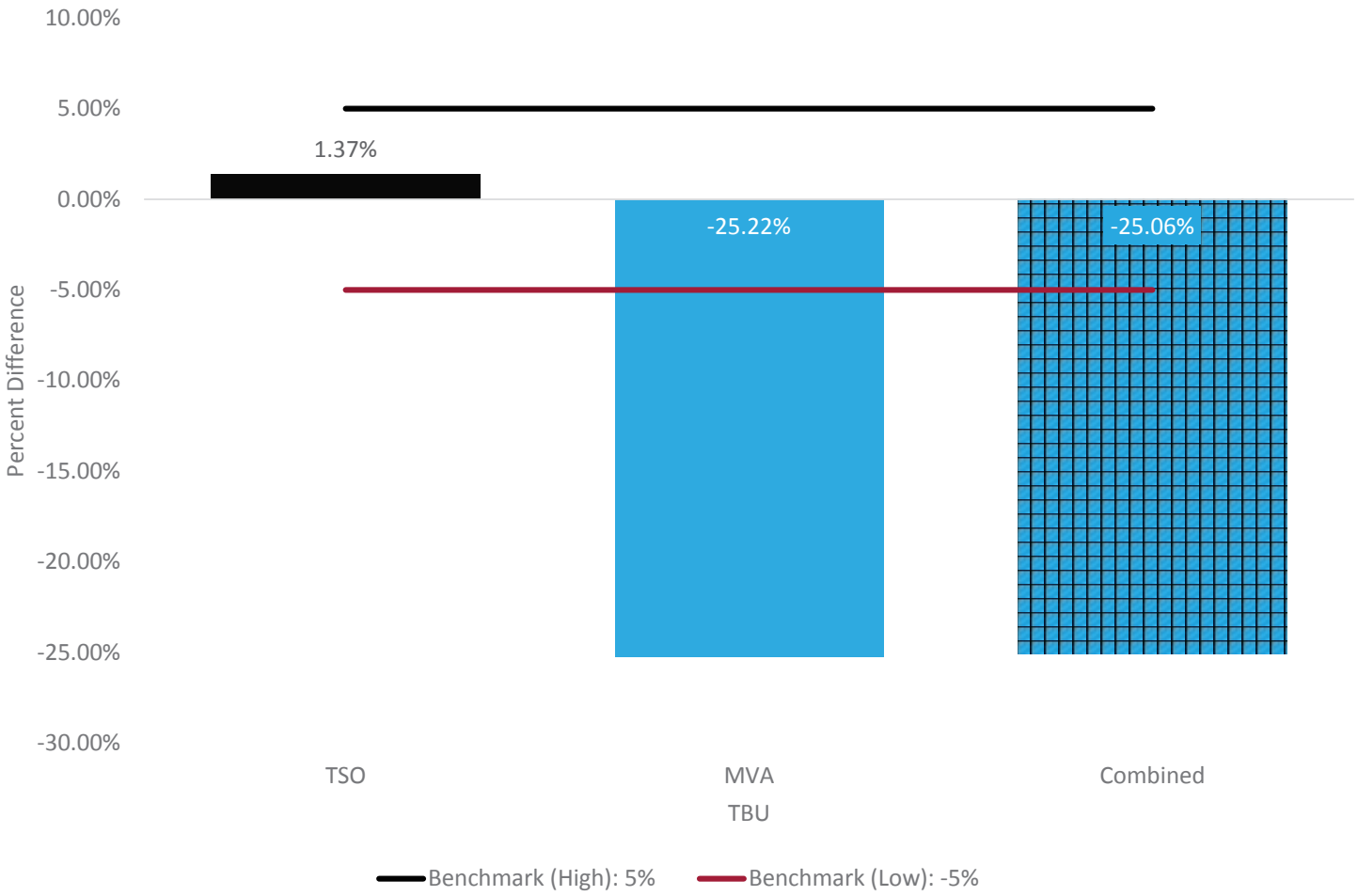
Chart 4.1.1: Percent of Estimated Project Budget as Compared to Final Project Award FY2018



PERFORMANCE MEASURE 4.1

Percent of Estimated Project Budget as Compared to Final Project Award

Chart 4.1.2: Percent of Estimated Project Budget as Compared to Final Project Award TSO and MVA FY2018



TANGIBLE RESULT DRIVER:
Jason Ridgway
State Highway Administration (SHA)

PERFORMANCE MEASURE DRIVER:
Brian Miller
Maryland Port Administration (MPA)

PURPOSE OF MEASURE:
To measure the difference in the contract amount from NTP to final contractor payout.

FREQUENCY:
Annually (in October)

DATA COLLECTION METHODOLOGY:
Collect data from MDOT TBUs for FY2014 to FY2018. Data will reflect contracts that closed out in each respective fiscal year. Data will be reflected in a bar graph for each fiscal year.

NATIONAL BENCHMARK:
2%

PERFORMANCE MEASURE 4.2
Percent of Change for Finalized Contracts

It is important to assess how well we manage the budgeted and awarded amount during the duration of Department contracts. This is done to ensure we are getting what we paid for and not adding unnecessary or unbudgeted costs to our transportation projects. This will facilitate better contract performance and better management of contracts which will add overall value to the project and ensure worthwhile expenditures of taxpayer dollars.

Strategy development meetings have been held with TBU representatives throughout the reporting year to review data and address any issues that exist to meet the 2 percent benchmark for compliance. Data for FY2018 illustrates a collective effort for benchmark compliance by TBU. Only one TBU; MAA was over the 2 percent benchmark with a higher margin at 4.64 percent. This was due to changes in the Transportation Security Administration (TSA) and Customs and Border Protection (CBP) security requirements that affected two contracts that were already underway. Changes to the contracts had to be undertaken to facilitate the new security requirements. MDTA was over the 2 percent benchmark by .66 percent due to a site condition change in one of their contracts.

Individual TBUs may not have data from a fiscal year if no contract(s) closed during the respective fiscal year.

PERFORMANCE MEASURE 4.2

Percent of Change for Finalized Contracts

Chart 4.2.1: Percent Change for Finalized Contracts by TBU FY2015

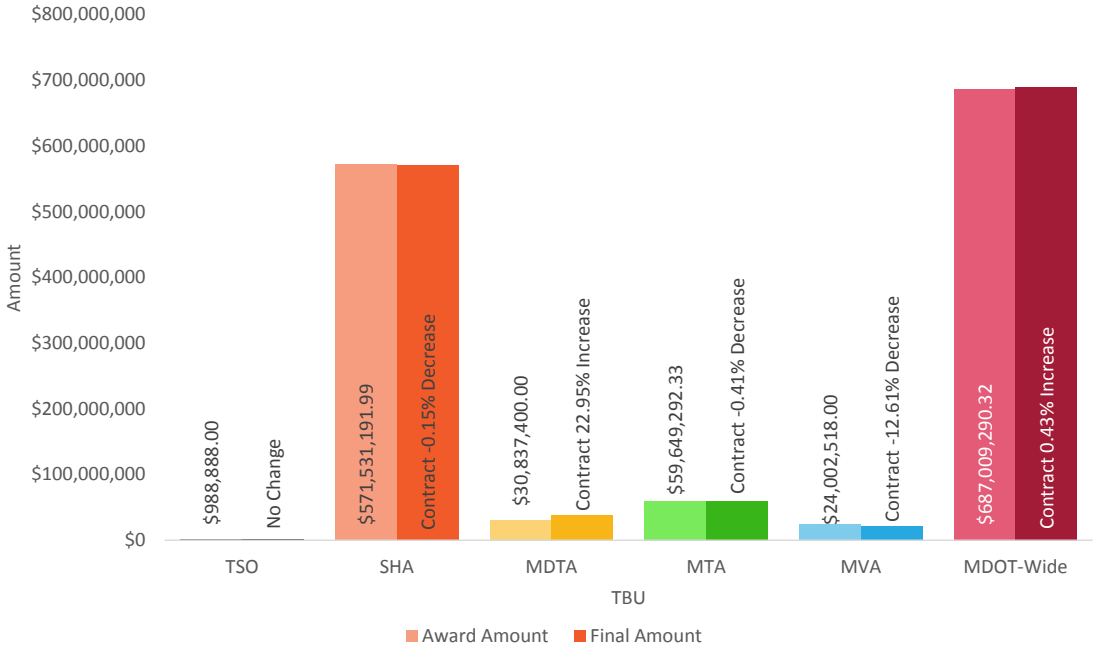
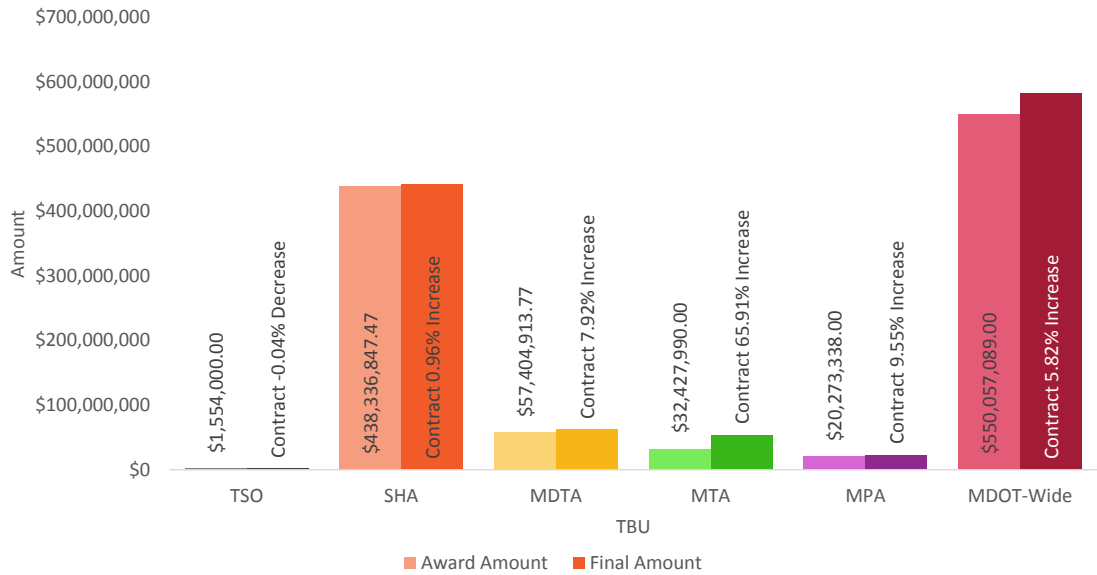


Chart 4.2.2: Percent Change for Finalized Contracts by TBU FY2016



PERFORMANCE MEASURE 4.2

Percent of Change for Finalized Contracts

Chart 4.2.3: Percent Change for Finalized Contracts by TBU FY2017

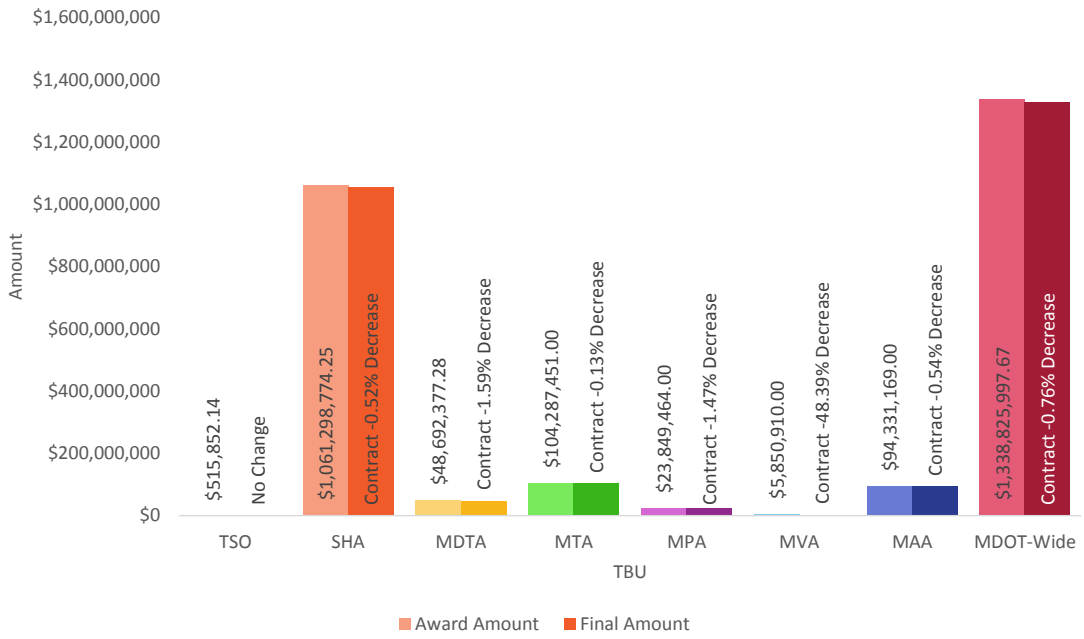
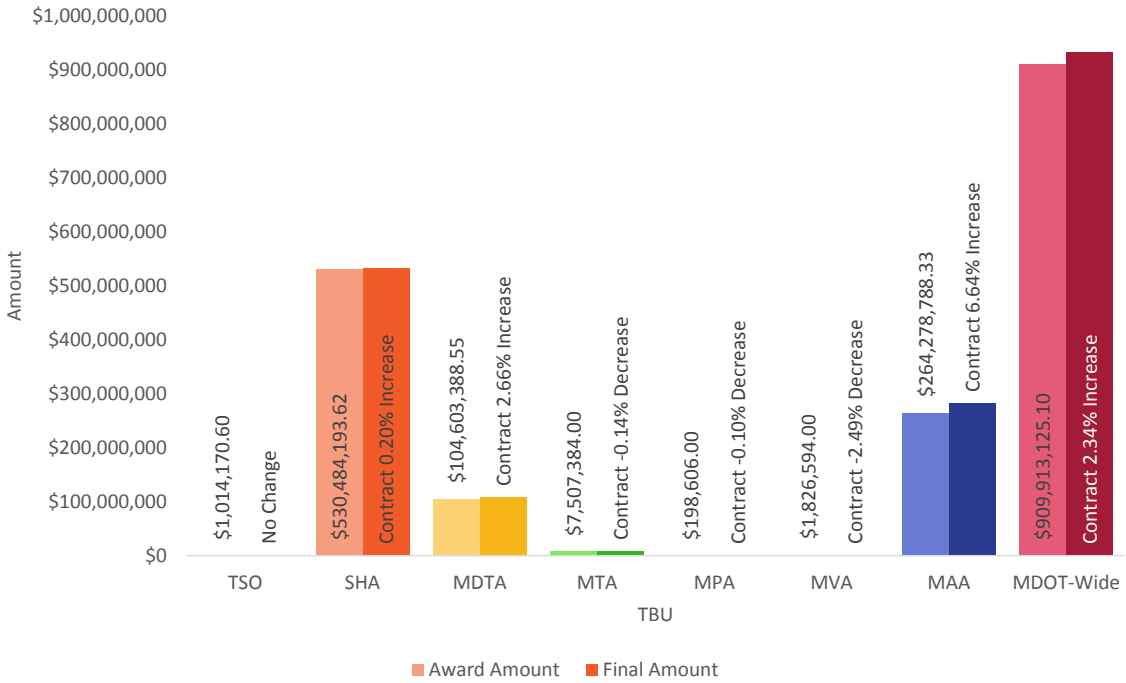


Chart 4.2.4: Percent Change for Finalized Contracts by TBU FY2018



TANGIBLE RESULT DRIVER:
Jason Ridgway
State Highway Administration (SHA)

PERFORMANCE MEASURE DRIVER:
Bill Appold
The Secretary's Office (TSO)

PURPOSE OF MEASURE:
To determine if MDOT is efficiently managing and delivering contracts and services.

FREQUENCY:
Annually (in October)

DATA COLLECTION METHODOLOGY:
Information will be provided by the MDOT Offices of Construction, Planning and Finance.

NATIONAL BENCHMARK:
87%

PERFORMANCE MEASURE 4.3

On-time Services and Solutions: Percent of Projects Completed by Original Contract Date

When MDOT awards a contract or agrees to provide a service, it establishes a commitment date which is the date the contract or service begins providing benefits to MDOT's stakeholders.

The purpose of this performance measure is to track MDOT's accuracy in estimating if contracts and services are completed and open to service by the commitment date specified in the contract. The performance measure will also determine if there are common factors that make contracts go over their budgeted time and whether these factors can be mitigated.

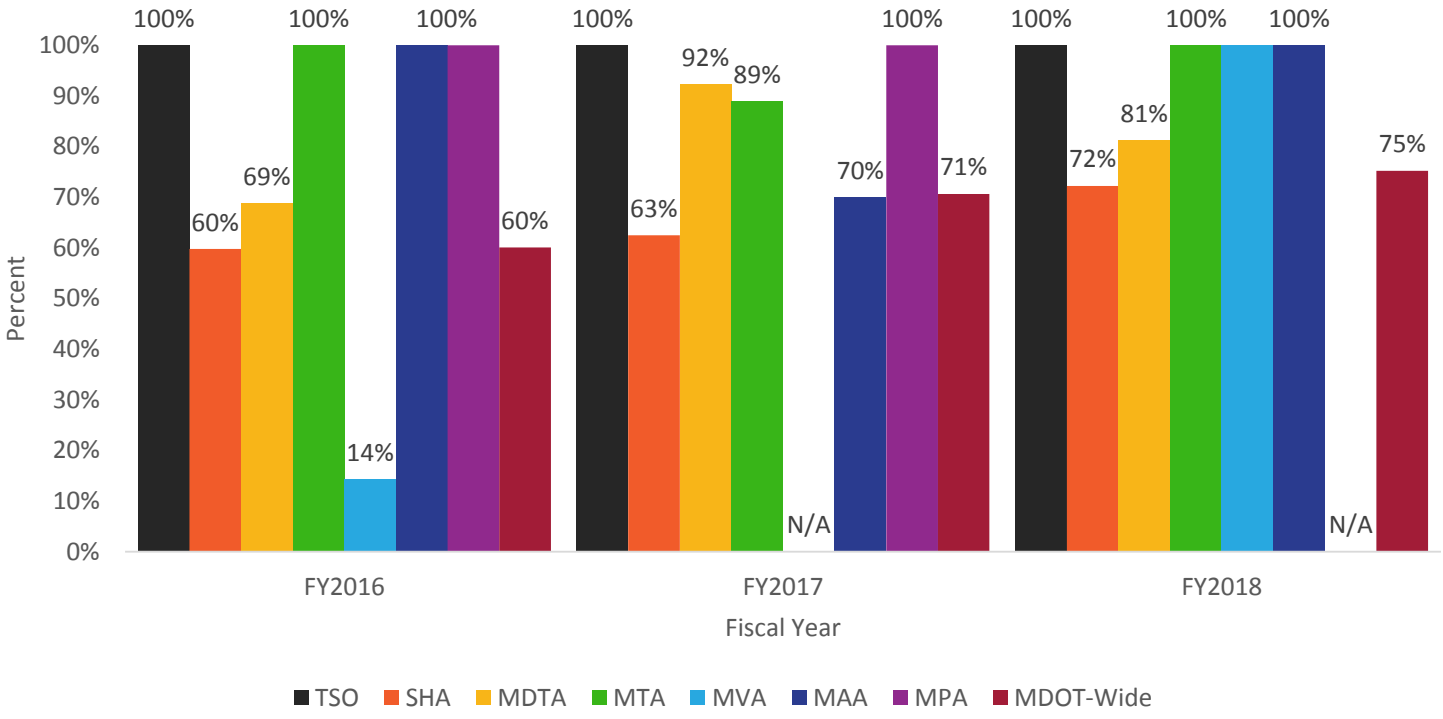
Overall MDOT increased the percentage of contracts completed in a timely basis from 60 percent in FY2016 and 71 percent in FY2017 to a FY2018 total of 75 percent. This is largely due to a new standard that measures project completion based on when our stakeholders start receiving "beneficial use" from the project. This aligns with MDOT's focus on its customers.

Another reason for the improved performance is the adoption of strategies designed to limit delays in the completion of contracts. These strategies include the implementation of A + B Bidding and Time of Year Letting strategies as well as a lessons learned process post-completion and a having design changes undergo administrator review and approval.

PERFORMANCE MEASURE 4.3

On-time Services and Solutions: Percent of Projects Completed by Original Contract Date

Chart 4.3.1: On-Time Services and Solutions, Percent of Projects Completed by Original Contract Date FY2016-FY2018



TANGIBLE RESULT DRIVER:
Jason Ridgway
State Highway Administration (SHA)

PERFORMANCE MEASURE DRIVER:
Ross Turlington
Maryland Transit Administration (MTA)

Jim Harkness
Maryland Transportation Authority (MDTA)

Shawn Ames
Maryland Aviation Administration (MAA)

PURPOSE OF MEASURE:
To track the average cost of common transportation services and solutions to make decisions as to where to reduce costs as appropriate.

FREQUENCY:
Annually (in January and July)

DATA COLLECTION METHODOLOGY:
Through the Capital Program Management System (CPMS); The Consolidated Transportation Plan (CTP) and MDOT Capital Budget, Finance and Procurement Offices.

NATIONAL BENCHMARK:
N/A

PERFORMANCE MEASURE 4.4

Average Cost of Common Transportation Solutions and Services

It is MDOT's responsibility to provide transportation solutions and services to the public that are of great value.

The purpose of these measures is to track, access, and analyze data that will help reveal solutions for reducing the cost of transportation services. Tracking data that is grouped by shared services across business units will allow comparison across TBUs, and also insight into ways to reduce the cost of services to the public.

Performance measure 4.4 has 10 separate measurements. These measurements include minor and major road resurfacing cost, interstate road resurfacing cost, bridge replacement cost and major bridge redecking cost. Other measurements include operating cost per passenger trip, operating cost per revenue vehicle mile, passenger trips per revenue vehicle mile, farebox recovery and cost per transaction.

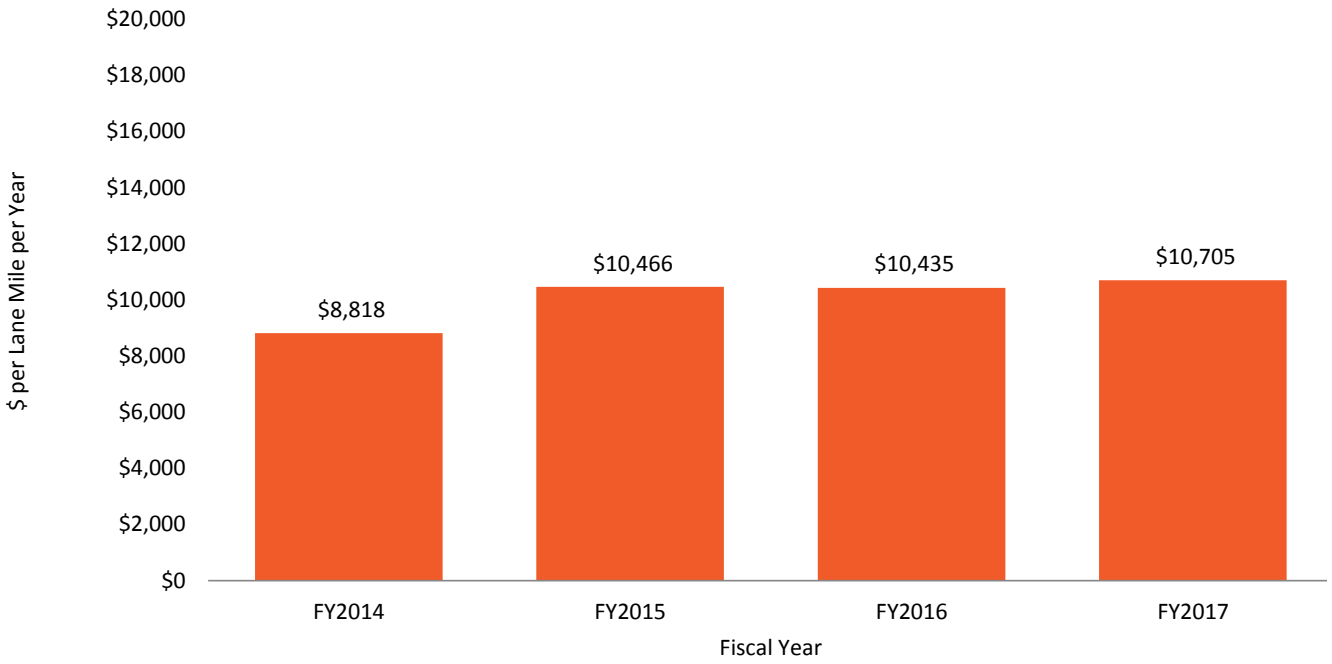
Tracking of these measures is based upon actual costs associated with contracts issued for various road and bridge projects. Because data for these projects is tracked annually, in any given year there may not be an award for this type of project as can be seen from some of the MDTA data.

Regardless, the data will provide our customers with insights into how Maryland transportation projects compare to national averages. Benchmarks are sought to gauge how Maryland solutions and services compare with national averages as well as who is considered the best in this category. Based on year-to-year data comparisons, the goal is to identify ways to reduce costs to the citizens of Maryland.

PERFORMANCE MEASURE 4.4A

Average Cost of Common Transportation Solutions and Services

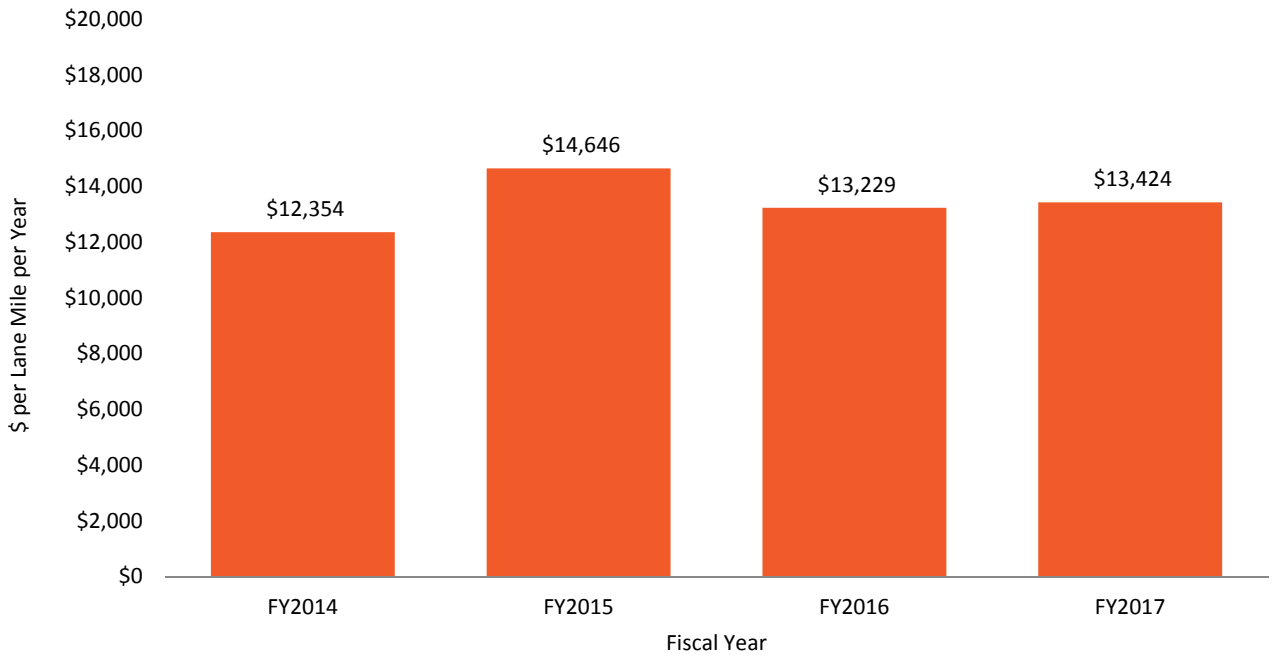
Chart 4.4A: Minor Road Preservation Life Cycle Cost FY2014-FY2017



PERFORMANCE MEASURE 4.4B

Average Cost of Common Transportation Solutions and Services

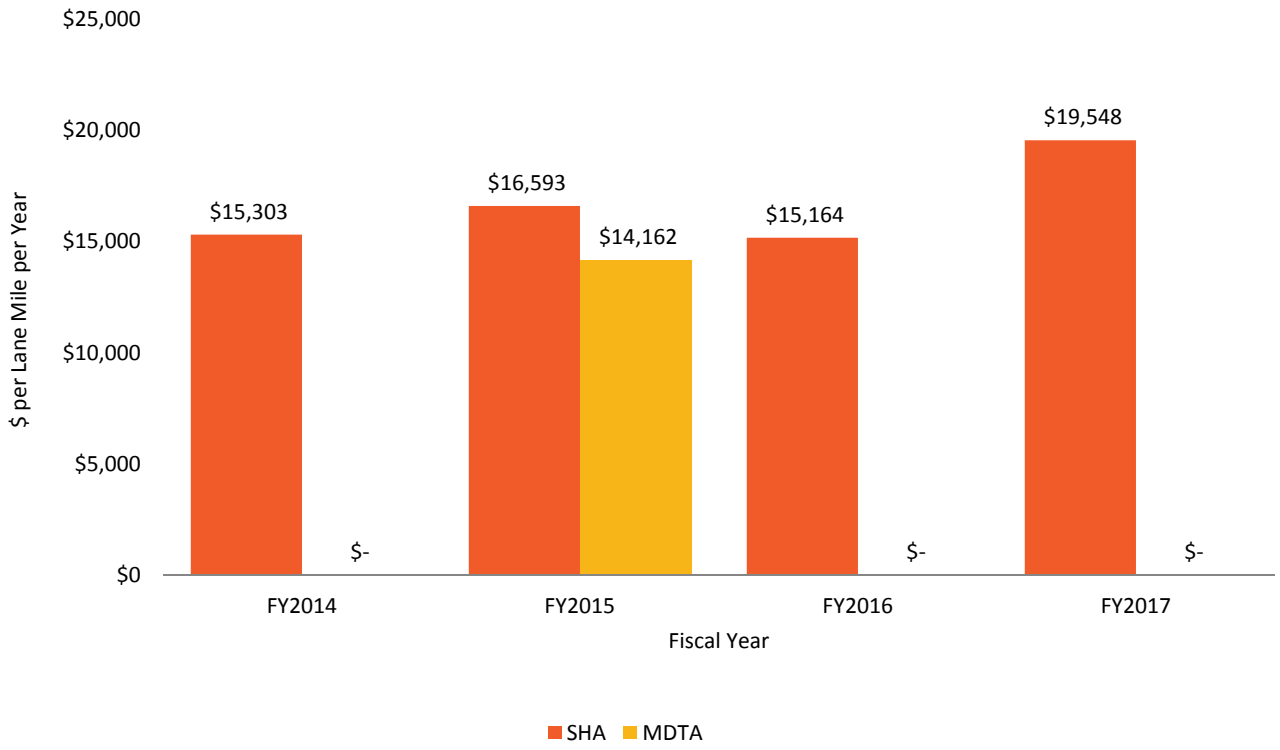
Chart 4.4B: Major Road Preservation Life Cycle Cost FY2014-FY2017



PERFORMANCE MEASURE 4.4C

Average Cost of Common Transportation Solutions and Services

Chart 4.4C: Interstate Preservation Life Cycle Cost FY2014-FY2017



PERFORMANCE MEASURE 4.4D AND E

Average Cost of Common Transportation Solutions and Services

Chart 4.4D: Average Bridge Replacement Cost FY2015-FY2018

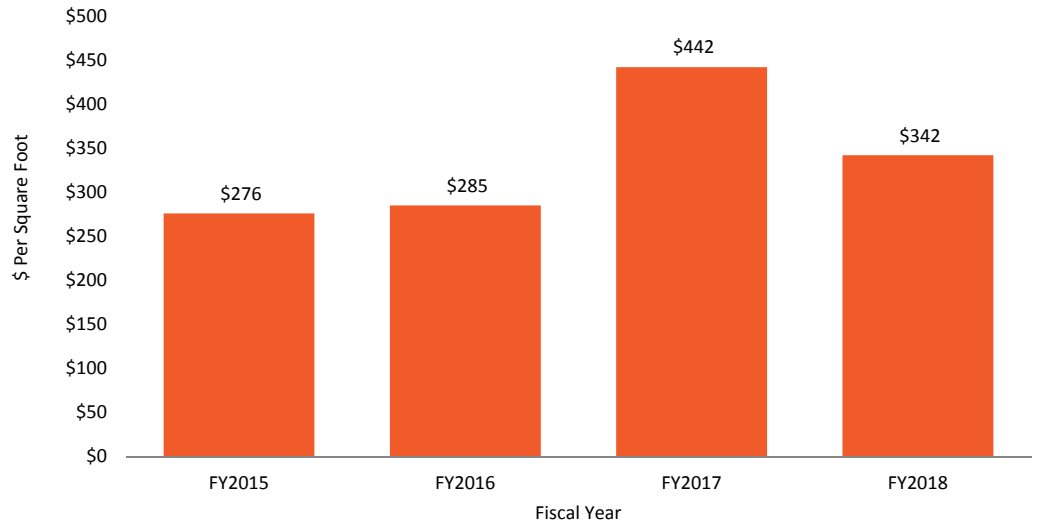
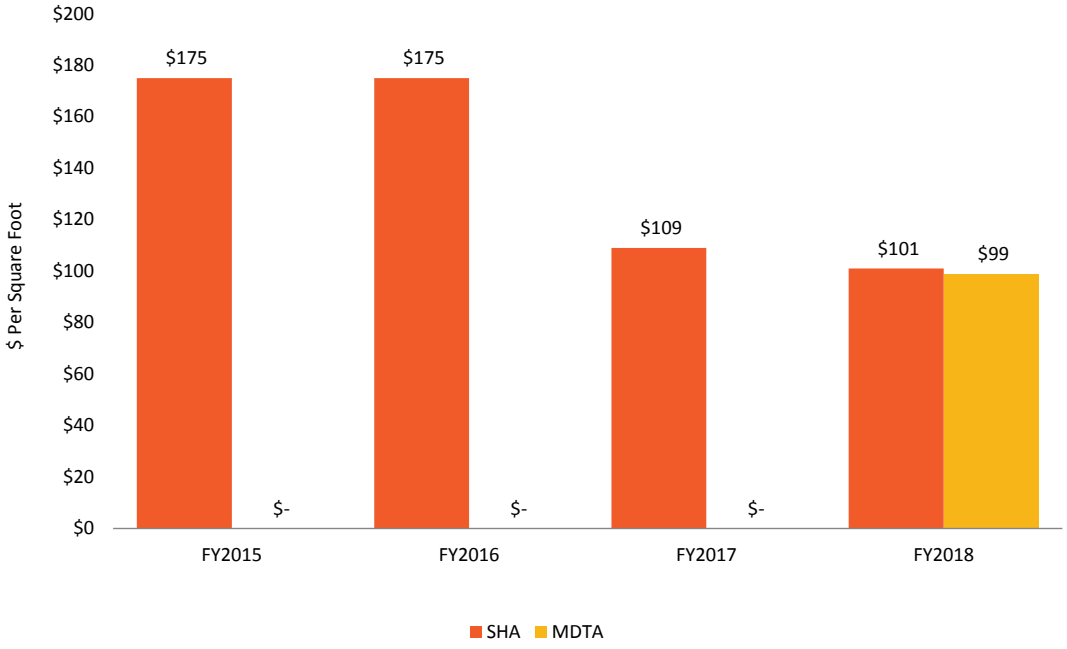


Chart 4.4E: Average Bridge Redecking Cost FY2015-FY2018

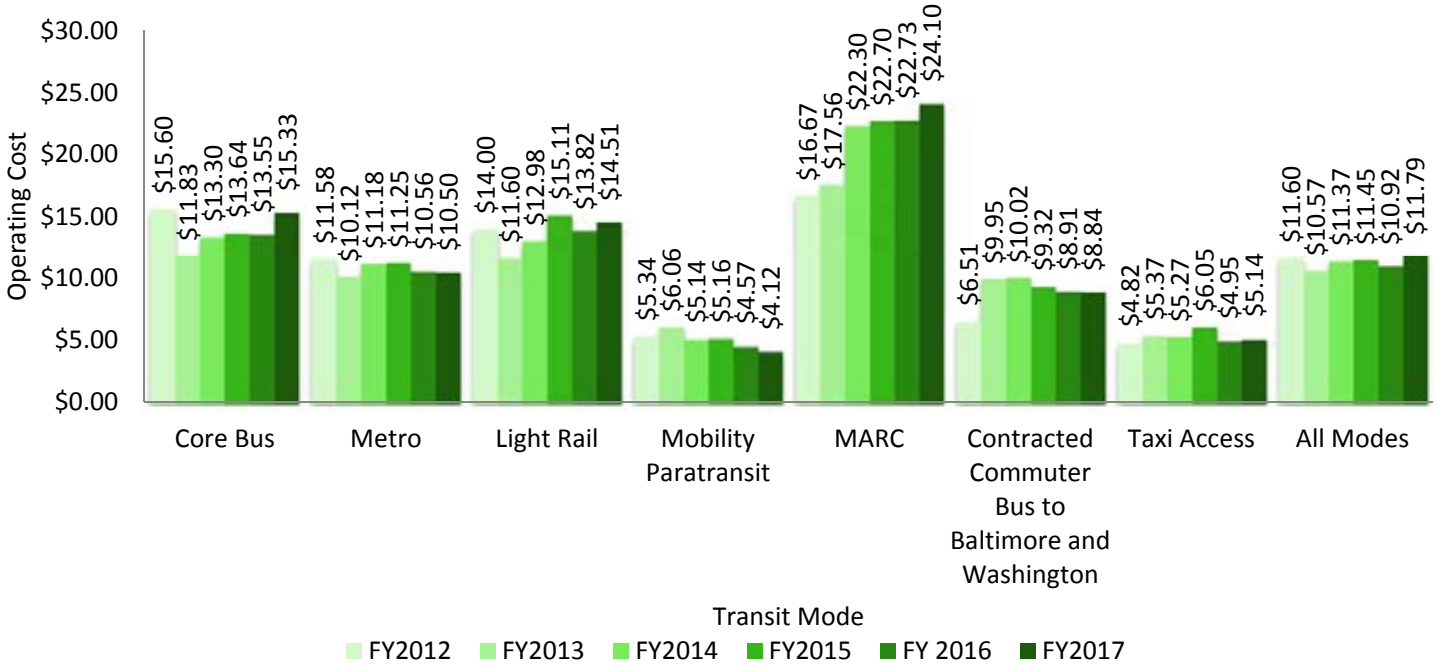


PERFORMANCE MEASURE 4.4F

Average Cost of Common Transportation Solutions: Operating Cost per Passenger Trip (MTA)

Operating cost per passenger trip is calculated by dividing the total modal operating cost by the amount of passenger trips taken. Passenger trips does not represent the number of riders, it illustrates the amount of overall trips our riders take during a specified period of time. This metric provides MTA another way of assessing the performance and efficiency of our services by attributing a monetary value to the amount of trips taken.

Chart 4.4F.1: Operating Cost Per Revenue Vehicle Mile FY2012-FY2017

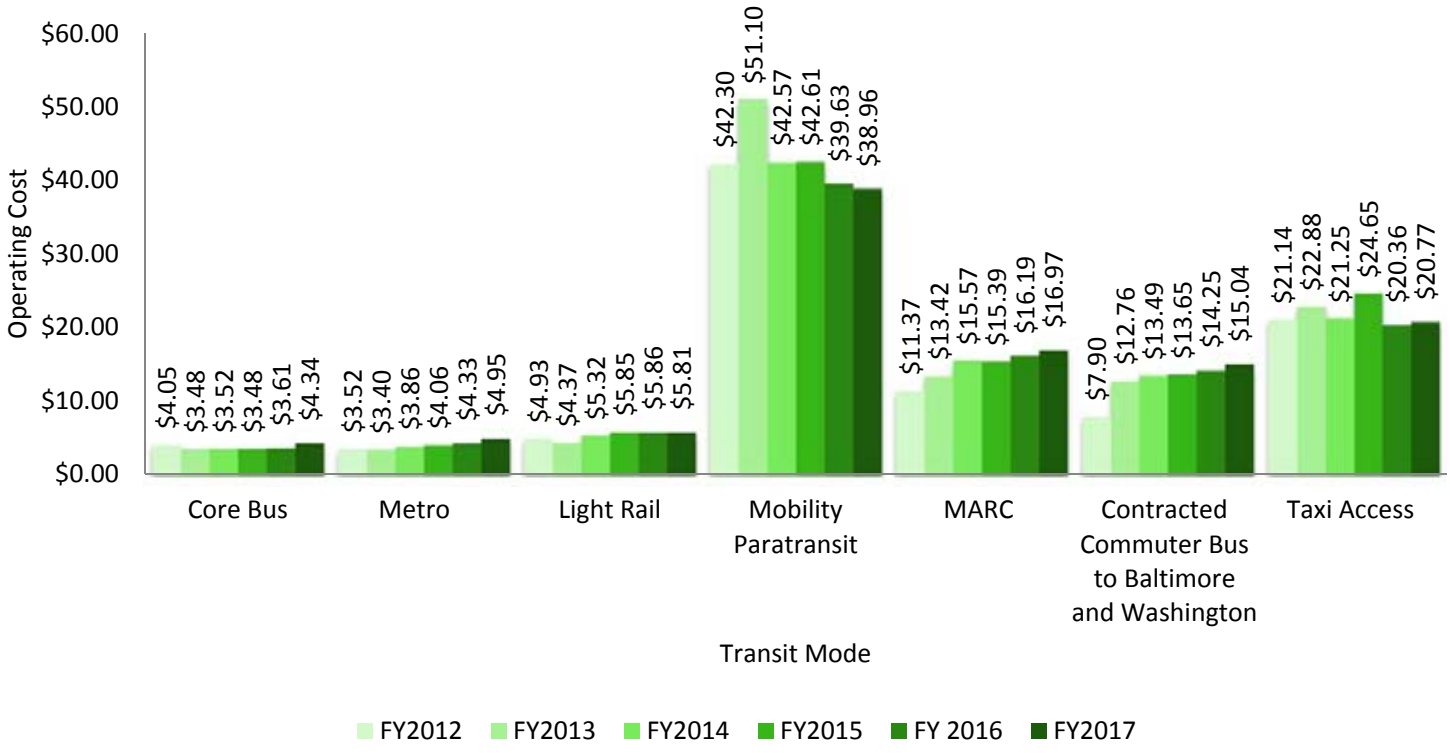


PERFORMANCE MEASURE 4.4G

Average Cost of Common Transportation Solutions: Operating Cost per Revenue Vehicle Mile (MTA)

Operating cost per revenue vehicle mile is calculated by dividing the total modal operating cost by the amount of revenue vehicle miles traveled. This measure enables MTA to better understand the modal cost efficiencies of our transit services. Operating costs include vehicle maintenance, operator wages, fuel, etc.

Chart 4.4G.1: Operating Cost Per Passenger Trip FY2012-FY2017

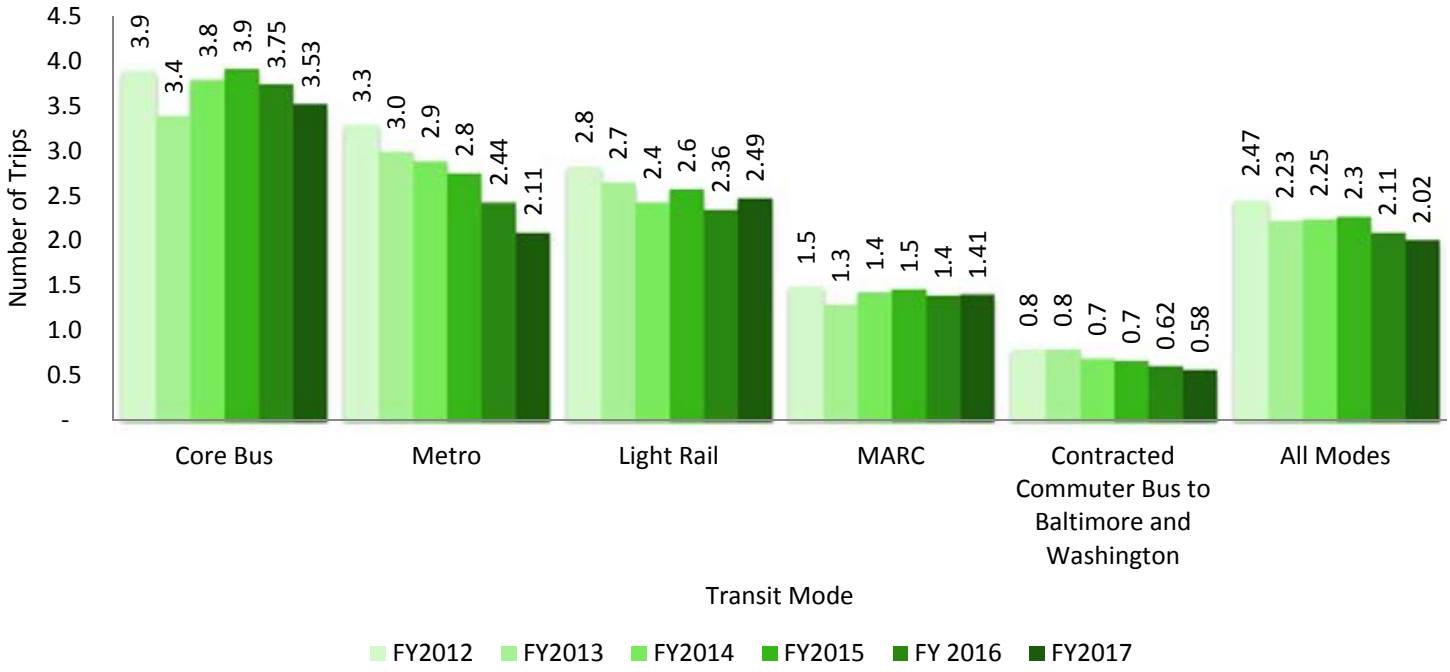


PERFORMANCE MEASURE 4.4H

Average Cost of Common Transportation Solutions: Passenger Trip per Revenue Vehicle Mile (MTA)

Passenger trips per revenue vehicle mile is calculated by dividing the number of passenger trips by the amount of revenue vehicle miles traveled. This measure enables the MTA to understand the number of rides relative to the amount of service provided for each mode. It allows MTA to assess the rider demand and the appropriate volume of service.

Chart 4.4H.1: Passenger Trips Per Revenue Vehicle Mile FY2012-FY2017

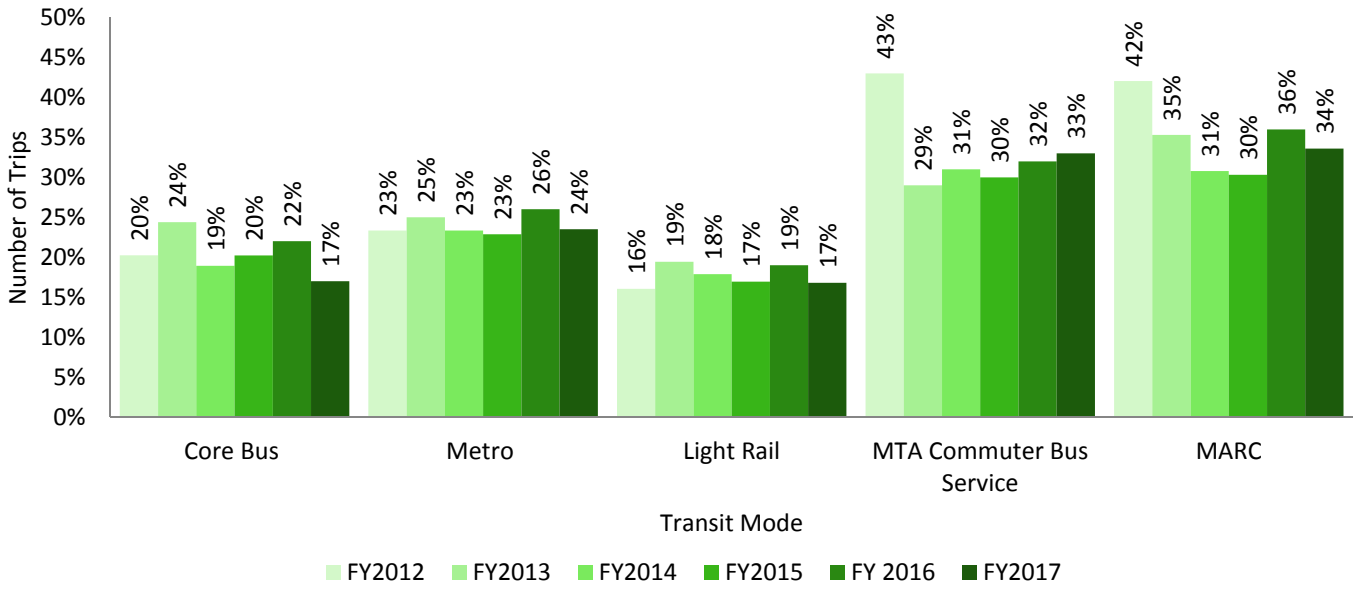


PERFORMANCE MEASURE 4.4I

Average Cost of Common Transportation Solutions: Farebox Recovery Ratio (MTA)

Farebox Recovery Ratio is calculated by dividing the modal operating costs by the amount of fare revenue collected through passenger fare purchases. This measure helps MTA assess the cost efficacy and financial sustainability of operating each mode of transit service.

Chart 4.4I.1: Farebox Recovery Ratio FY2012-FY2017



PERFORMANCE MEASURE 4.4J

Average Cost of Common Transportation Solutions: Cost per Transaction (MVA)

The cost per transaction includes those costs that directly affect an MVA product. It is based on the operating expense, compared to the total number of customer transactions completed by visiting one of the MVA locations, mailing in a request, or completing a transaction through an alternative service delivery (ASD). The operating expense is inclusive of salaries, overtime and wages, and all other expenses related to completing a customer transaction. Operating expense does not include the administrative costs, costs for IT system enhancements, and onetime start-up costs for new product development. Also, not included are costs for Maryland Highway Safety Office (MHSO) and Capital Programs.

In FY2018 there was a decerase in cost per transaction when compared to FY2017. This decrease is mostly due to an overall reduction in transactions as well as a reduction in operating expenditures. Although the overall trend for branch transactions is expected to decrease with an increase in ASD. There is an aniticipated spike in branch transaction expected for FY2019 which could increase the cost per transaction in the next fiscal year. Trends in cost per transaction can vary with policy changes, new legislation and new technologies which allow customers to complete more transactions online and through kiosks.

Branch facilities will continue to drive the cost per transaction calculation. The MVA has been collaborating with other state agencies to utilize MVA locations to offer more opportunities for Maryland customers. Recently, MVA has made modifications to some of the branch offices to offer services for DNR, EZPass, Charm Cards, Vital Records, TWIC Card and TSA precheck. MVA staff provide support to the TWIC and TSA pre-check counters. As this scenario continues, MVA will be able to quantify the percentage of other state agencies utilizing MVA branches, and this will affect the MVA cost per transaction.

PERFORMANCE MEASURE 4.4J

Average Cost of Common Transportation Solutions: Cost per Transaction (MVA)

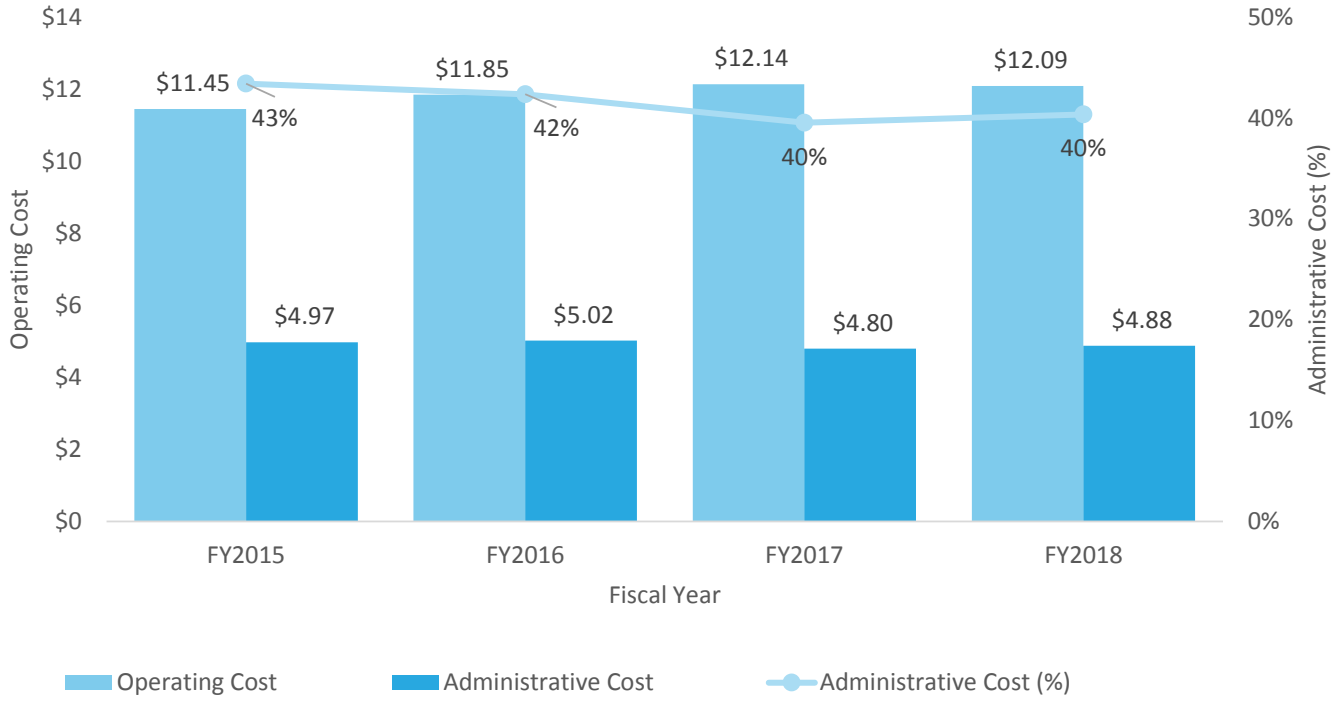



Chart 4.4J.1: MVA Operating & Administrative Cost Per Transaction FY2015-FY2018